

REMARKS

Claims 1, 3-22, 13-19, 21-26, 34, and 37-47 are pending. Applicant amends claims 21, 25, 34, 39, 43, 44, 45, and 47. Amendments to the claims are supported, e.g., by FIG. 2 and associated text. Applicant requests the Examiner reconsider the rejections in light of the arguments presented below.

35 U.S.C. §101 Rejections

The Examiner rejected claims 44, 45, and 47 under 35 U.S.C. §101 because the claims allegedly are directed to “non-statutory” subject matter.

Applicant has amended claims 44, 25, and 47 to state that a computer program is embodied on a non-transitory computer readable medium. In the “New Interim Patent Subject Matter Eligibility Examination Instructions”, August 24, 2009 (“Eligibility Examination Instructions” herein) this language was implied as being allowed under 35 U.S.C. §101. See “Product Example: Claim 3” on page 10 of the presentation “INTERIM EXAMINATION INSTRUCTIONS FOR EVALUATING SUBJECT MATTER ELIGIBILITY UNDER 35 U.S.C. §101. See also Id., Part II.A.(c), at page 4: “As another example, a claim to a non-transitory, tangible computer readable storage medium *per se* that possesses structural limitations under the broadest reasonable interpretation standard to qualify as a manufacture would be patent-eligible subject matter” (emphasis in original).

Consequently, Applicant respectfully requests this §101 rejection be withdrawn.

Applicant would respectfully like to point out that the current guidelines, as embodied in the Eligibility Examination Instructions (and on the “Subject Matter Eligibility of Computer Readable Media” memorandum signed by Mr. David Kappos on 26 January 2010), on this issue contain non-logical rules. For instance, the guidelines apparently require the computer readable medium to be “non-transitory”. However, most computer memory is

transitory. RAM for example is read/write, which means that a program would be loaded into a part of memory (thereby potentially overwriting that portion of memory), executed, and, when the program finishes operating, removed from memory. The RAM also completely loses its contents when the computer is shut off. Therefore, RAM is transitory.

Moreover, even long term storage, such as hard drives and “firmware”, is transitory in most cases: programs on hard drives can be written over, deleted, etc.; and firmware can be erased (e.g., using voltage or light), written over (e.g., using voltage), etc. Page 2 of the Eligibility Examination Instructions gives the example of a compact disc, but even these are known to lose their programming, get scratched, etc., which means that the programming on these might be “transitory”.

The PTO’s reliance on In re Nuijten for stating that computer readable media cannot encompass a “signal” is misplaced. That issue was not before the court:

Finally, Nuijten’s allowed Claim 15 is directed to “[a] storage medium having stored thereon a signal with embedded supplemental data,” where the stored signal has essentially the encoding properties described above. Thus, Nuijten has been allowed claims to the process he invented, a device that performs that process, and a storage medium holding the resulting signals. **None of these claims is before us on appeal.**

In re Nuijten, Fed. Cir., 2006-1371 page 6.

With regard to the Eligibility Examination Instructions, these state that “a claim to a computer readable medium that can be a compact disc or a *carrier wave* covers a non-statutory embodiment and therefore should be rejected under § 101 as being directed to non-statutory subject matter” (Eligibility Examination Instructions, page 2). However, what is a “carrier wave”? A hard drive has a series of locations on the drive that have some predetermined magnetic states. What separates these predetermined magnetic states from a “carrier wave”? A RAM has locations corresponding to bits, and those locations are at certain voltage states (for instance). What separates these bits from a “carrier wave”? A compact disc has a series of holes on the surface of the disc, and those holes encode digital

information. What separates these holes from a “carrier wave”? Certainly in order to read the magnetic states of a drive or holes in a compact disc, some type of “wave” has to be generated and decoded.

It is unclear to the Applicant as to what qualifies as a “computer readable medium” based on the current guidelines.

Moreover, since the computer readable medium is *computer readable*, it should not matter what the medium itself is. Programs are simply an arrangement of ones and zeros that instruct a processor to perform actions. It should not matter how those ones and zeros are delivered to the processor. Claims 25 and 26 are not trying to claim a *signal*; they claim a *computer readable medium*, and the medium is immaterial as long as the medium is *computer readable*.

Applicant quotes from In re Nuijten:

In Lowry, the case upon which the PTO relied principally at oral argument, we considered the allowability of patent claims for a computer memory storage system containing a particular set of data structures that were useful for more quickly storing and retrieving data in a database system. 32 F.3d at 1580–82. We concluded that

Lowry’s data structures impose a physical organization on the data. . . . More than mere abstraction, the data structures are specific electrical or magnetic structural elements in a memory. According to Lowry, the data structures provide tangible benefits: data stored in accordance with the claimed data structures are more easily accessed, stored, and erased [and] represent complex data accurately and enable powerful nested operations. In short, Lowry’s data structures are physical entities that provide increased efficiency in computer operation.

Id. at 1583–84. Consequently, we held, the PTO’s printed matter rejection was erroneous. From this, the PTO apparently takes the position that functional but intangible software, data structures, signals, and the like are patentable under Lowry if they are encoded on a tangible medium, but unpatentable (as failing a tangibility requirement to be “manufactures”) if the medium is not referenced in the claims. Absent Lowry, the PTO’s position apparently would be that Nuijten’s claim 14 (the signal, standing alone) is

unpatentable subject matter under § 101, and that claim 15 (the storage medium containing the signal) is unpatentably obvious under § 103 over prior art storage media.

The PTO's position makes little sense. As a doctrinal matter, the PTO should not look to § 101 sometimes and § 103 at other times to accomplish essentially the same end. As a matter of principle, there is little reason to allow patent claims to otherwise unpatentable, deemed abstractions just because those deemed abstractions are stored in a tangible medium, while rejecting the same inventions standing alone. **Nuijten's signal involves the same degree and type of human ingenuity whether or not it happens to be encoded in the magnetic fields of a hard disk drive, the optical pits of a compact disc, a stream of photons propagating across a vacuum, or any other specific form that technology might put it in. The signal is either a "new and useful" manufacture or it is not.** To allow a patent on a storage medium containing the signal but to deny one to the real underlying invention "make[s] the determination of patentable subject matter depend simply on the draftman's art" in the sense criticized by the Supreme Court in Flook.

In re Nuijten, Fed. Cir., 2006-1371 pages 16 and 17 (LINN, Circuit Judge, concurring-in-part and dissenting-in-part). Circuit Judge Linn's concerns are still valid for the PTO's treatment of computer readable media: either a medium is computer readable or it is not. The form of the medium should not matter.

Applicant respectfully submits that the current PTO guidelines, as embodied in the Eligibility Examination Instructions, with regard to computer readable media are without support in logic or case law. The scope of what is a "computer readable medium" also appears undefined based on the current PTO guidelines.

35 U.S.C. §102 Rejections

The Examiner rejected claims 25, 26, 37, 38, 43, and 45 under 35 U.S.C. §102(e) as being anticipated by Herrero (U.S. Patent Publication no. 2005/0009520). Applicant respectfully disagrees.

It is noted that independent claims 25, 26, 43, and 45 contain similar subject matter. For instance, claim 25 recites "determine that a first network element in a

communications network is out of service by sending a request to the first network element from the apparatus and determining that no response to the request has been received from the first network element at the apparatus” and claim 43 recites similar subject matter. Claims 26 and 45 recite the subject matter of “sending from user equipment a first message to a first network element”, “determining whether a response to the first message has been received”, and “in response to a determination that no response to the first message has been received, detecting at the user equipment that the first network element is out of service”. Regarding the rejection of claim 25, the Examiner asserts that this claim is taught by Herrero.

Generally Herrero appears to provide a solution that enables that a single subscription that could be used to access the network from different terminals and a terminal could have multiple registrations active simultaneously. So the problem in Herrero does not even concern any failure of network elements, unlike claim 25, which recites, e.g., the subject matter of “determine that a first network element in a communications network is out of service by sending a request to the first network element from the apparatus and determining that no response to the request has been received from the first network element at the apparatus.”

At first in Herrero an initial register message is sent from the UE to the network as explained by the Examiner and discussed in [0073] and [0075] and FIG. 2 of Herrero. But then when considering the response to the message (i.e. determining that no response has been received), the Examiner refers to paragraphs [0136] and [0144]. These paragraphs concern responses to INVITE messages rather than REGISTER messages (as discussed in [0073] and [0075] of Herrero). On the contrary there is explicitly said in [0145] of Herrero that the P-CSCF (Proxy Call State Control Function) finds out in the address information (e.g.: IP-Addr) the P-CSCF keeps related to the terminals (e.g., UEs) it is serving access, the UE (or plurality of UEs) from which a registration was requested (REGISTER) and granted (the “200 OK” registration response; see paragraph [0081] of Herrero).

Thus, the “200 OK” registration response in Herrero was received successfully as response to the register message discussed in [0073]. Thus, it is respectfully submitted the

Examiner has failed to show that there is determination of no response to the request (i.e., the registration request in Herrero) sent by the terminal. Therefore, Herrero does not disclose the subject matter of “determin[ing] that a first network element in a communications network is out of service by sending a request to the first network element from the apparatus and determining that no response has been received from the first network element at the apparatus” in claim 21.

More specifically, amended claim 25 recites “determine that a first network element in a communications network is out of service by sending a request to the first network element from the apparatus and determining that no response to the request has been received from the first network element at the apparatus”. This subject matter includes a request and a response. Now the Examiner has taken from Herrero in his citations a REGISTER message to correspond our request, and the REGISTER message is discussed in paragraphs [0073] and [0075]. However, when considering the response to the request, the Examiner suddenly switches to different context in Herrero, paragraphs [0136] and [0144] where a response to a message is discussed. In these paragraphs, this response is to a *different* request than discussed in [0073] and [0075]. The request in these paragraphs is INVITE, not REGISTER as in [0073] and [0075]. Claim 25 concerns naturally a response to the request mentioned previously in the claim. A small amendment has been made to claim 25 to further clarify this point.

Regarding dropping of the bearer configured to signal between the apparatus and a communications network in claim 25 (with similar language in claims 26, 43, and 45), the Examiner tries to map this to the paragraph [0135] of Herrero. According to this embodiment in Herrero, the I-CSCF (Interrogating Call State Control Function) forwards the INVITE simultaneously to more than one of a plurality of S-CSCFs. In this case, as soon as the session is awarded (i.e.: answered or accepted) (e.g.: reception of SIP response code “200 OK” from one of said S-CSCFs), the I-CSCF can tear down the session requests it had sent to the other S-CSCFs (e.g.: sending a SIP cancel request “CANCEL” to said S-CSCFs).

There are three different reasons as to why this section should not be mapped to claims 25, 26, 43, and 45:

1) There does not seem to be any determination of network element out of service in Herrero. On the contrary, in this case, “as soon as the session is awarded (i.e: answered or accepted) (e.g.: reception of SIP response code ‘200 OK’ from one of said S-CSCFs)” (see paragraph [0135] of Herrero), the request is accepted and awarded, and thus responded to.

2) It is clearly the I-CSCF which tears down the session in Herrero, but in claim 25, it is the apparatus that both sends a request and determines that no response has been received. The Examiner appears to suggest that the terminal sends the request but that the I-CSCF determines that no response has been received in Herrero.

3) According to claim 25 (with similar language in claims 26, 43, 45), the bearer configured to signal between the apparatus and a communications network is dropped, but in Herrero the session is dropped, which is simply a cancel request (see paragraph [0136] of Herrero). These are two different operations. An example of dropping a bearer is, e.g., the bearer for SIP signaling is torn down, the access network connection for IMS. Further, a cancel request is not a bearer configured to signal between the I-CSCF and the S-CSCF.

The passages cited by the Examiner regarding operations of “discover or select at the apparatus a second network element, and send from the apparatus to the second network element a message comprising an initial request for registration at the communications network” are again totally something else than what is recited in claim 25 (with similar language in claims 26, 43, and 45). Applicant respectfully submits that passage [0077] of Herrero merely discusses the determination in the HSS (home server) whether the user is already registered or not. Claim 25 has subject matter related to what happens in the terminal and also passage [0077] of Herrero seems not to be related to detecting whether any response has been received to previous requests. Specifically, the Examiner seems to refer here that a re-register message is mentioned in [0105] of Herrero. Claim 25 recites a message

comprising an *initial registration request*. That is, claim 25 recites sending an initial registration request, which is contrary to *re-registration* discussed in [0105] of Herrero.

Applicant respectfully points out that there are two different types of registrations in IMS (Internet Protocol Multimedia Subsystem), initial registration and re-registration. Please see <http://www.3gpp.org/ftp/Specs/html-info/23228.htm> and examine the REGISTER and INVITE procedures if further information is needed.

Thus, claim 25 is patentable over and is not disclosed by Herrero. Claims 26, 43, and 45 are also patentable for at least these reasons. Because claim 25 is patentable, its dependent claims 37 and 28 are also patentable for at least the reasons given above.

35 U.S.C. §103(a) Rejections

The Examiner rejected claims 1, 3-11, 13-15, 17, 19, 21-24, 34, 39-42, 44, and 46-47 as being obvious over Herrero in view of the 3GPP.

Regarding this rationale, it is said in our claim: “transmitting the first message from the first network element to a serving network element” (see independent claims 1, 19, 41, and 44). The Examiner seems to map the “serving network element” of claims 1, 19, 41, and 44 incorrectly to I-CSCF in Herrero (although in Herrero the REGISTER request seems to be sent also to S-CSCF). Again, in the rejections to these claims, the Examiner refers to paragraphs [0136] and [0144]. These paragraphs concern responses to SIP INVITE messages rather than to SIP REGISTER messages.

In section [0069] of Herrero, it is merely discussed what is defined in different 3GPP documents. And again, the second message in our case is initial registration message (or request), not re-registration as the Applicant respectfully submits the Examiner incorrectly tries to map. The Examiner acknowledges that Herrero does not teach “determining at the first network element a type of the first message, wherein determining the type of the first message comprises evaluating content of a predefined information element in the first

message; in dependence on the determined type of the first message, sending from the first network element to the user equipment an error message including an indication that the serving network element is out of service”.

Regarding these features, the Examiner says that these correspond to a situation described in the 3GPP document, where a SIP request is sent and then an SIP response is returned - and in case of a failure, an error message is sent.

We disagree that this corresponds to the alleged situation in the 3GPP document for at least the following reasons:

In certain of our claims (e.g., claims 1, 19, 43, and 44) the error message is sent based on two different conditions which both need to be met:

- the serving network element is out of service; and
- the content of the received message (received from the user equipment).

See, e.g., claim 1: “detecting at the first network element that the serving network element is out of service “; and “in dependence on the determined type of the first message [received from the user equipment], sending from the first network element to the user equipment an error message including an indication that the serving network element is out of service”.

3GPP does not explicitly seem to disclose what is meant by “in case of failure”. This may mean that the serving network element is out of order, but it does not pose any additional requirements, i.e. in addition to that also examine a predetermined portion of the message and only after that decide whether an error message is to be sent, as recited in independent claims 1, 19, 41, and 44.

Thus clearly Herrero combined with 3GPP do not teach 1) detecting that serving network element is out of service and 2) examining a predetermined portion of the request and based upon those two checks send an error message.

Thus, claims 1, 19, 41, and 44 are patentable over the alleged combination of Herrero and 3GPP. Amended claim 34 also recites “in dependence on the determined type of the first message received from the user equipment, send an error message to the user equipment including an indication that the serving network element is out of service” and is also patentable for at least the reasons given above.

With respect to independent claims 21, 39, 42, and 47, these claims recite the subject matter of “receive an error message from a first network element in a communications network in response to a first message of a first type, the error message indicating that a serving network element for the apparatus is out of service” and “in response to the error message to send a further message of a second type different from the first type of the first message to the first network element” or similar. As described above, neither Herrero nor 3GPP nor their combination discloses receiving an error message from a first network element in a communications network in response to a first message, where the error message indicates that a serving network element for the apparatus is out of service, and in response to the error message, sending a message of a second type different from the type of the first message to the first network element. Consequently, independent claims 21, 39, 42, and 47 are patentable over the combination of Herrero and 3GPP.

Because independent claims 1, 19, 21, and 39 are patentable, their dependent claims 3-11, 13-18, 46, 22-26, and 40 are also patentable for at least the reasons given above.

Conclusion

Based on the foregoing arguments, it should be apparent that the remaining claims are thus allowable over the reference(s) cited by the Examiner, and the Examiner is respectfully requested to reconsider and remove the rejections. The Examiner is invited to call the undersigned attorney for any issues.

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